

# PATENT ABSTRACTS OF JAPAN

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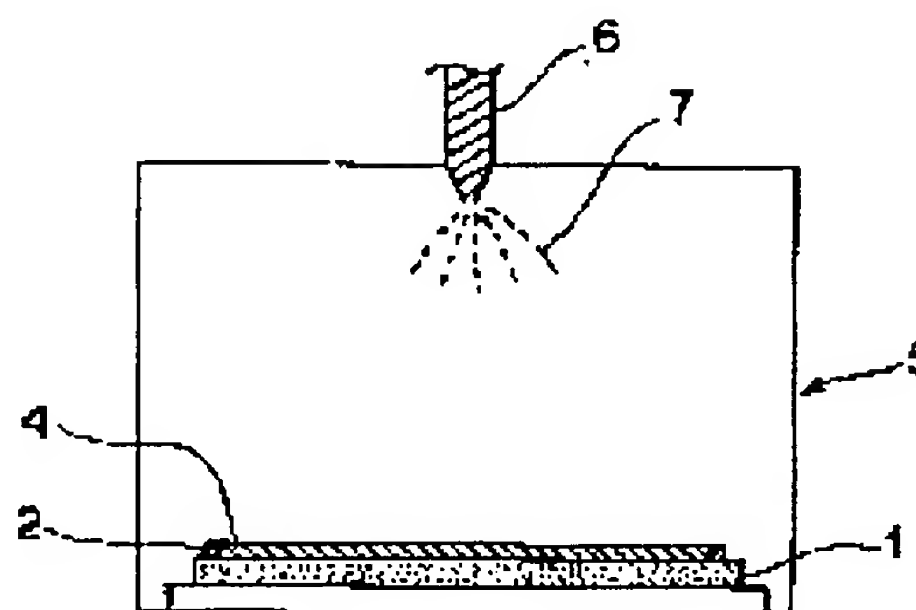
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## (54) PRODUCTION OF LIQUID CRYSTAL DISPLAY ELEMENT

(57)Abstract:

**PURPOSE:** To easily produce the liquid crystal display element having a uniform gap by printing the circumference of a substrate having transparent electrodes to a frame shape with a sealing material, dropping a liquid crystal onto the surface on a transparent electrode side and spraying spacer materials.

**CONSTITUTION:** An oriented film is formed on one sheet of a substrate provided with the transparent electrodes and is subjected to a rubbing treatment. The sealing material 2 is printed by using a UV curing type adhesive on the other substrate 1. A liquid crystal material 4 is dropped to the inside surface of this seal. The spacer materials 7 consisting of a spherical resin are sprayed by using a spacer spraying device 5 onto the substrate 1 dropped with the liquid crystal. The spacer materials 7 can be sprayed by measuring the prescribed amt. thereof and blowing the spacer materials out of a spraying nozzle 6 by compressed air, etc. After the spacer materials 7 are sprayed, the substrate to be disposed opposite is placed thereon from above and a uniform pressure is applied on the substrate; thereafter, the sealing material 2 is irradiated with UV rays, by which the sealing material can be cured. The movement and flocculation of the spacer materials 7 in the liquid crystal are prevented and the uniform gap is formed by spraying the spacer materials 7 after dropping of the liquid crystal in such a manner.



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